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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/805,362	03/22/2004	Yohichiro Miyaguchi	250833US2	9471

22850 7590 01/20/2006

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
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EXAMINER	
REIS, TRAVIS M	

ART UNIT	PAPER NUMBER
2859	

DATE MAILED: 01/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

H·A

Office Action Summary	Application No.	Applicant(s)	
	10/805,362	MIYAGUCHI ET AL.	
	Examiner	Art Unit	
	Travis M. Reis	2859	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 November 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20 and 22-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20 and 22-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 November 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hosoi et al. (U.S. Patent 4607938) in view of Oikawa et al. (U.S. Patent 5708939).

With reference to claims 1, 5-14, 16-19, Hosoi et al discloses a toner supply device (5) in an image forming apparatus (1) for supplying toner (17) to a surface of an electrostatic transport member (12) which carries the toner with an electrostatic force to a developing position facing a latent image carrying member (3) and develops a latent image on the latent image carrying member (P) by the toner (Figure 1), comprising receiving means (13) for receiving a mixture of toner composed of toner particles and a two-material coated friction facilitating material (16) composed partly of nonmagnetic friction facilitating particles of an average particle diameter greater than an average particle diameter of the toner particles(Figure 2); plural flat member agitating means (33) & electrostatic-charged brush structure carrying means (14) for agitating

and carrying the mixture of the toner and the friction facilitating material in the receiving means; further comprising recycling means (103) for recycling toner (Figure 1).

With respect to the preamble of the claims 1, 5-14, 16-19: the preamble of the claim (i.e. an electrostatic transport member which conveys the toner by generating a progressive wave electric field) does not provide enough patentable weight because it has been held that a preamble is denied the effect of a limitation where the claim is drawn to a structure and the portion of the claim following the preamble is a self – contained description of the structure not depending for completeness upon the introductory clause. ***Kropa v. Robie***, 88 USPQ 478 (CCPA 1951).

Hosoi et al. does not disclose a mesh contacted by said agitating and carrying means having plural openings for communicatively connecting inside and outside of the receiving means therethrough, the shortest diameter portion of the openings of the mesh being greater than the average particle diameter of the toner particles and smaller than the average particle diameter of the friction facilitating particles, wherein the toner particles in the mixture are discharged from the openings of the mesh and supplied to the surface of the electrostatic transport member, wherein the openings of the mesh are disposed in a posture in which a longitudinal direction thereof is along a direction perpendicular to a carrying direction of the agitating and carrying means.

Oikawa et al. discloses a developing apparatus that uses a mesh (26), in contact with spiral brush agitating means (31) and carrying means (29) consisting of rib members with triangular projections formed on flat surfaces (Figure 4), said mesh having plural openings allowing specifically sized toner particles to pass through said openings in which a longitudinal direction thereof is along a direction perpendicular to the agitating & carrying means (Figure 4). Therefore, it would have been obvious to one with ordinary skill in the art at the time of the

invention was made to add the mesh member disclosed by Oikawa et al. to the receiving means disclosed by Hosoi et al. in order to keep the friction facilitating particles from ending up upon the images.

With reference to claims 2-4, Hosoi et al. does not disclose the shortest diameter portion of the openings of the mesh has a size sufficient for allowing passage of at least 80% of the toner particles while preventing passage of at least 80% of the friction facilitating particles the openings of the mesh being non-perfect circles. However, to choose a 80% success rate of a non-perfect circle, absent any criticality, is only considered to be the " optimum " value & shape of the mesh, as stated above, that a person having ordinary skill in the art would have been able to determine using routine experimentation based, among other things, on the desired accuracy and since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. See ***In re Boesch***, 205 USPQ 215 (CCPA 1980). Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention was made to shape the openings of the mesh disclosed by Hosoi et al. & Oikawa et al. into non-perfect circles with at least an 80% success rate in order to prevent smearing by the friction facilitating particles on the paper.

With reference to claim 15, Hosoi et al. does not disclose the agitating member is a butterfly system.

Oikawa et al. discloses an agitating member (35) which is butterfly shaped (Figure 5) for aiding in breaking up large toner particles into fine toner. Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention was made to add the butterfly shaped agitating member disclosed by Oikawa et al. to the agitating and carrying means disclosed by Hosoi et al. in order to break up large toner particles into fine toner

4. Claims 20, 22, 23, & 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Miyaguchi et al. (U.S. Patent 6597884) in view of Hosoi et al. & Oikawa et al.

Miyaguchi et al. discloses a developing device (16) for developing a latent image formed on a latent image carrying member (1), comprising an electrostatic transport member (31) (Figure 2) for conveying toner on a surface thereof by generating a progressive wave electric field (Figure 6) (col. 7 lines 15-25) to a developing position facing the latent image carrying member; and toner supply means (33) for supplying the toner to the surface of the electrostatic transport member, wherein the toner carried to the developing position is adhered to the latent image on the latent image carrying member to develop the latent image (Figure 6), the toner supply means comprising receiving means (36) for receiving a mixture of toner; agitating and carrying means (37) for agitating and carrying the mixture of the toner in the receiving means; further comprising discharge facilitating means (col. 5 line 30) and a protective layer (123) (Figure 33) coating the surface of the electrostatic transport member.

Miyaguchi et al. do not disclose the mixture of toner is composed of toner particles and a friction facilitating material composed of friction facilitating particles of an average particle diameter greater than an average particle diameter of the toner particles.

Hosoi et al discloses a toner supply device (5) in an image forming apparatus (1) with a mixture of toner composed of toner particles and a two-material coated friction facilitating material (16) composed partly of nonmagnetic friction facilitating particles of an average particle diameter greater than an average particle diameter of the toner particles (Figure 2) in order to provide a thin layer of dry developer to improve image sharpness and resolution (col. 1 lines 16-20). Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention was made to add the friction facilitating material disclosed by Hosoi et al. to the toner mixture disclosed by Miyaguchi et al. in order to provide a thin layer of dry developer to improve image sharpness and resolution

Miyaguchi et al. do not disclose a mesh having plural openings for communicatively connecting inside and outside of the receiving means therethrough, the shortest diameter portion of the openings of the mesh being greater than the average particle diameter of the toner particles and smaller than the average particle diameter of the friction facilitating particles, wherein the toner particles in the mixture are discharged by vibration means from the openings of the mesh and supplied to the toner electrostatic transport member.

Oikawa et al. discloses a developing apparatus that uses a mesh (26), in contact with spiral brush agitating means (31) and carrying means (29) consisting of rib members with triangular projections formed on flat surfaces (Figure 4), said mesh having plural openings allowing specifically sized toner particles to pass through said openings in which a longitudinal direction thereof is along a direction perpendicular to the agitating & carrying means (Figure 4) wherein the toner is discharged from the openings of the mesh by vibration means (col. 8 line 50). Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention was made to add the mesh member disclosed by Oikawa et al. to the receiving means disclosed by Miyaguchi et al. in order to keep prevent excessively large particles from ending up upon the images and causing image errors.

5. Claims 24 & 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyaguchi et al., Hosoi et al., & Oikawa et al. as applied to claims 20, 22, 23, & 26-28 above, and further in view of Isonaka et al. (U.S. Patent 3934256).

Miyaguchi et al., Hosoi et al., & Oikawa et al. disclose all of the instant claimed invention as stated above in the rejection of claims 20, 22, 23, & 26-28, but do not disclose the discharge facilitating means comprise an electrode member with potential difference generating means disposed between the mesh and the toner.

Isonaka et al. discloses an identification card producing apparatus (1) with an electrode

(C2) used to produce a corona discharge to pass material to a card through a mesh screen (24) (Figures 2 & 3). Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention was made to add the electrode disclosed by Isonaka et al. to the mesh disclosed by Miyaguchi et al., Hosoi et al., & Oikawa et al. in order to speed up the mesh declogging process.

Response to Arguments

6. In response to applicant's arguments that that Hosoi et al. & Oikawa et al. do not disclose all the features of the claims, the recitation of the feature of conveying toner by generating a progressive wave field has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

7. Applicant's arguments with respect to claims 20 & 22-28 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on

the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Travis M. Reis whose telephone number is (571) 272-2249. The examiner can normally be reached on 8--5 M--F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on (571) 272-2245. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Travis M Reis
Examiner
Art Unit 2859

Diego Gutierrez
Supervisory Patent Examiner
Tech Center 2800

tmr
January 17, 2006

FIG. 1

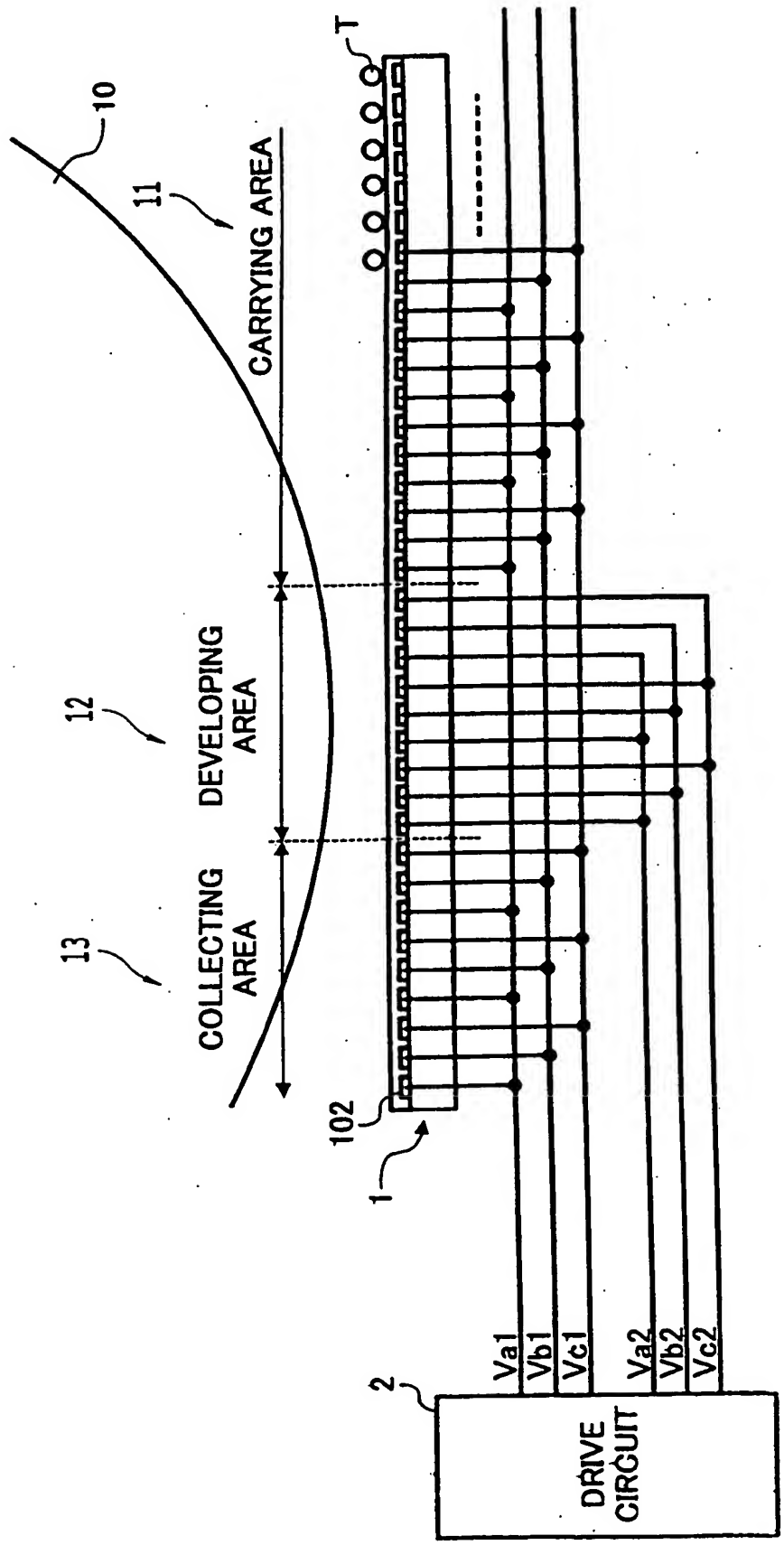


FIG. 4

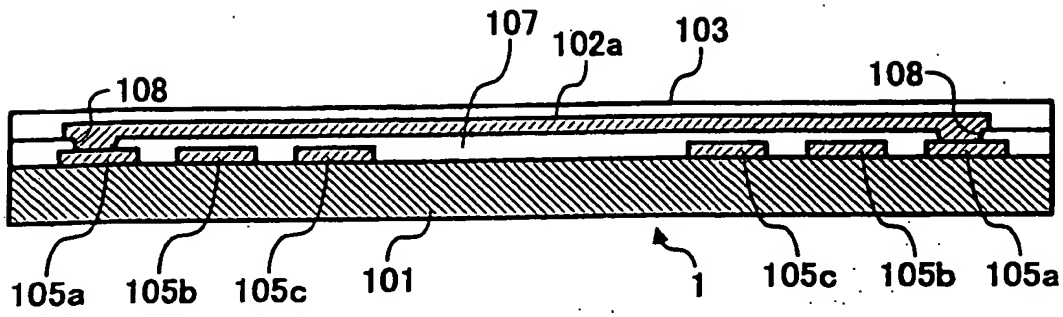


FIG. 5

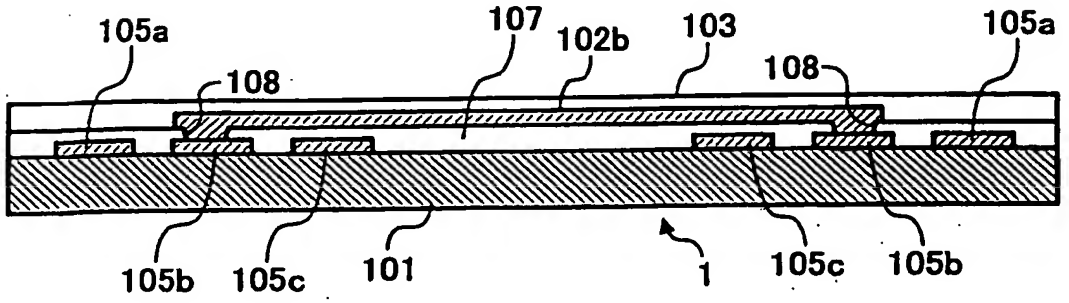


FIG. 6

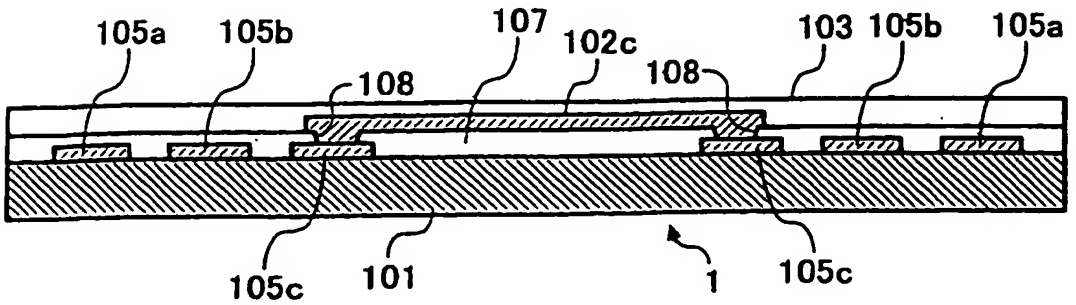


FIG. 35

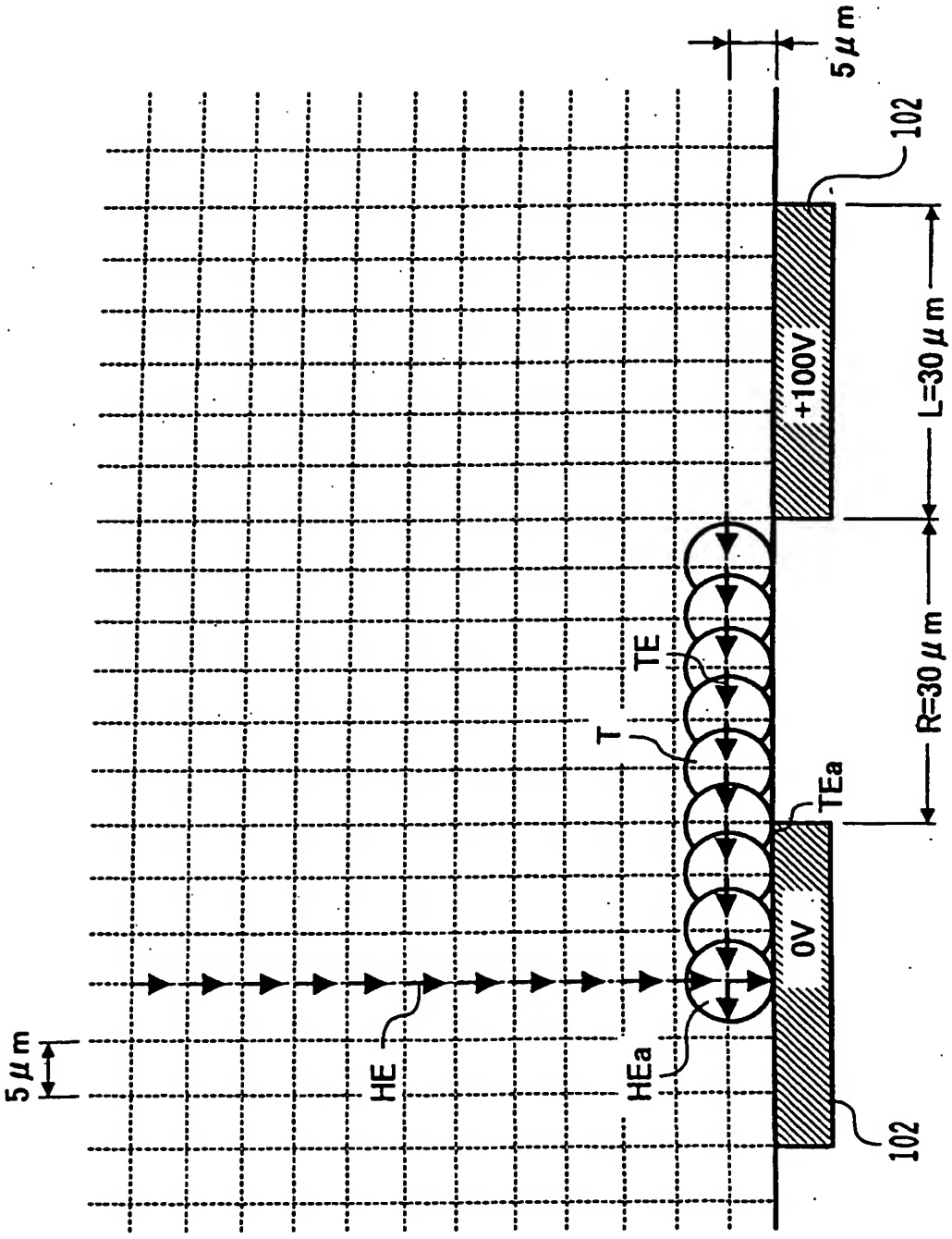


FIG. 75

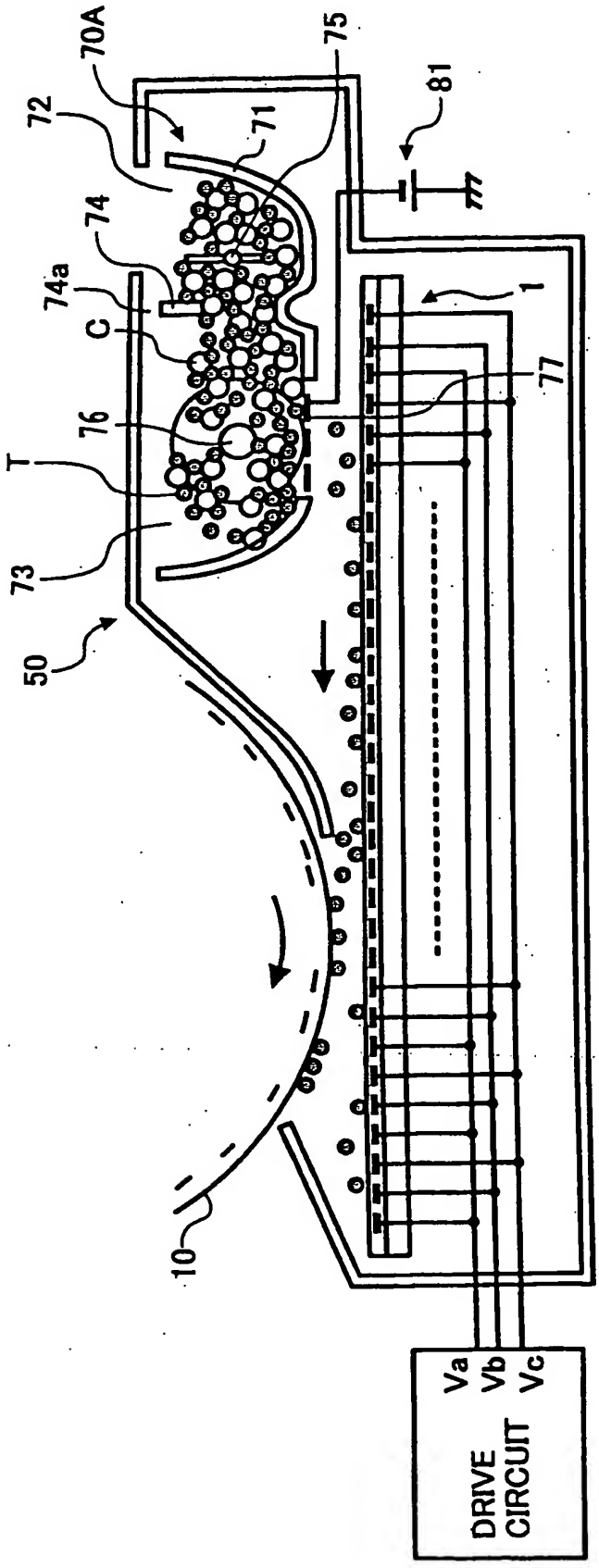
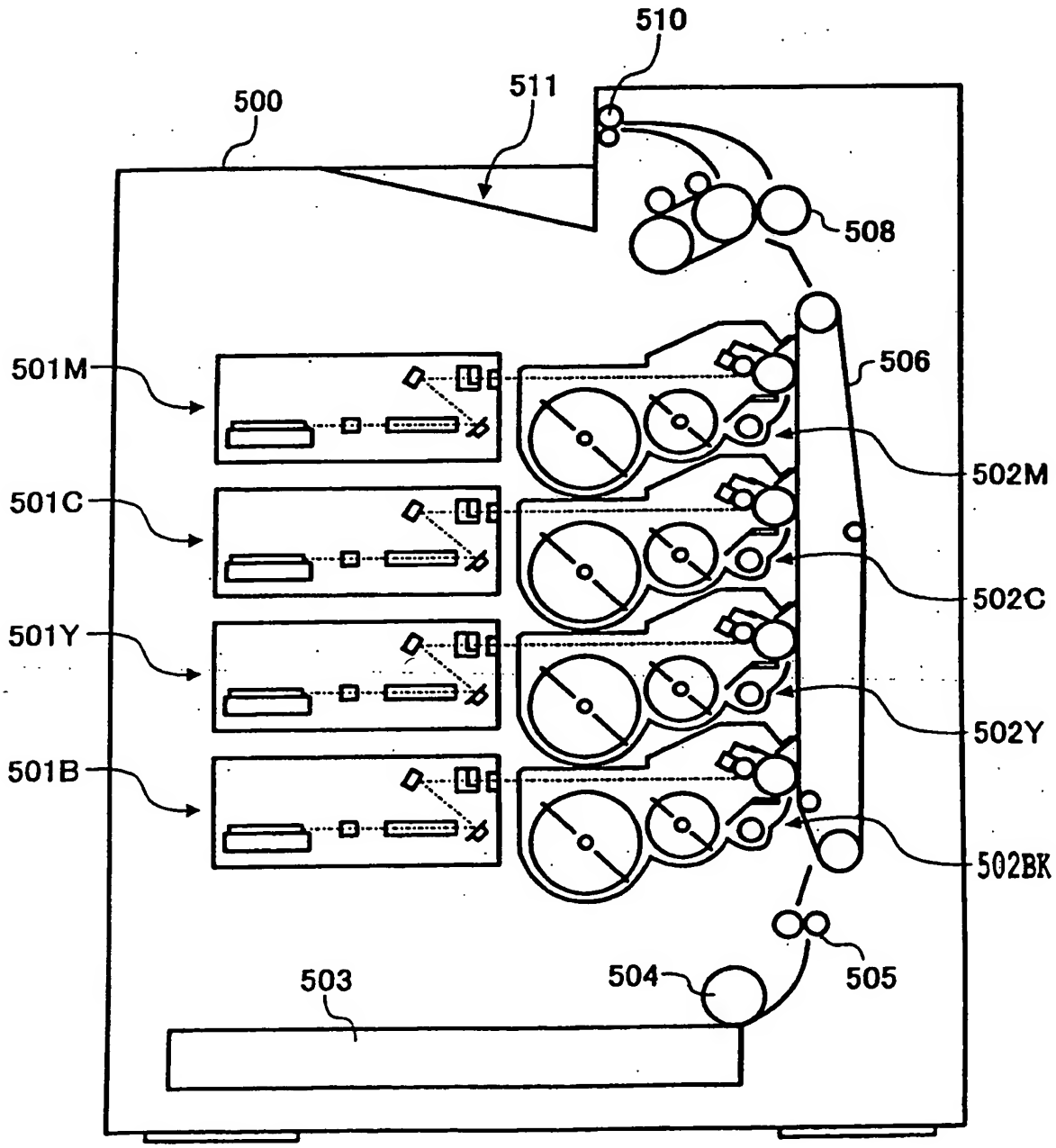


FIG. 90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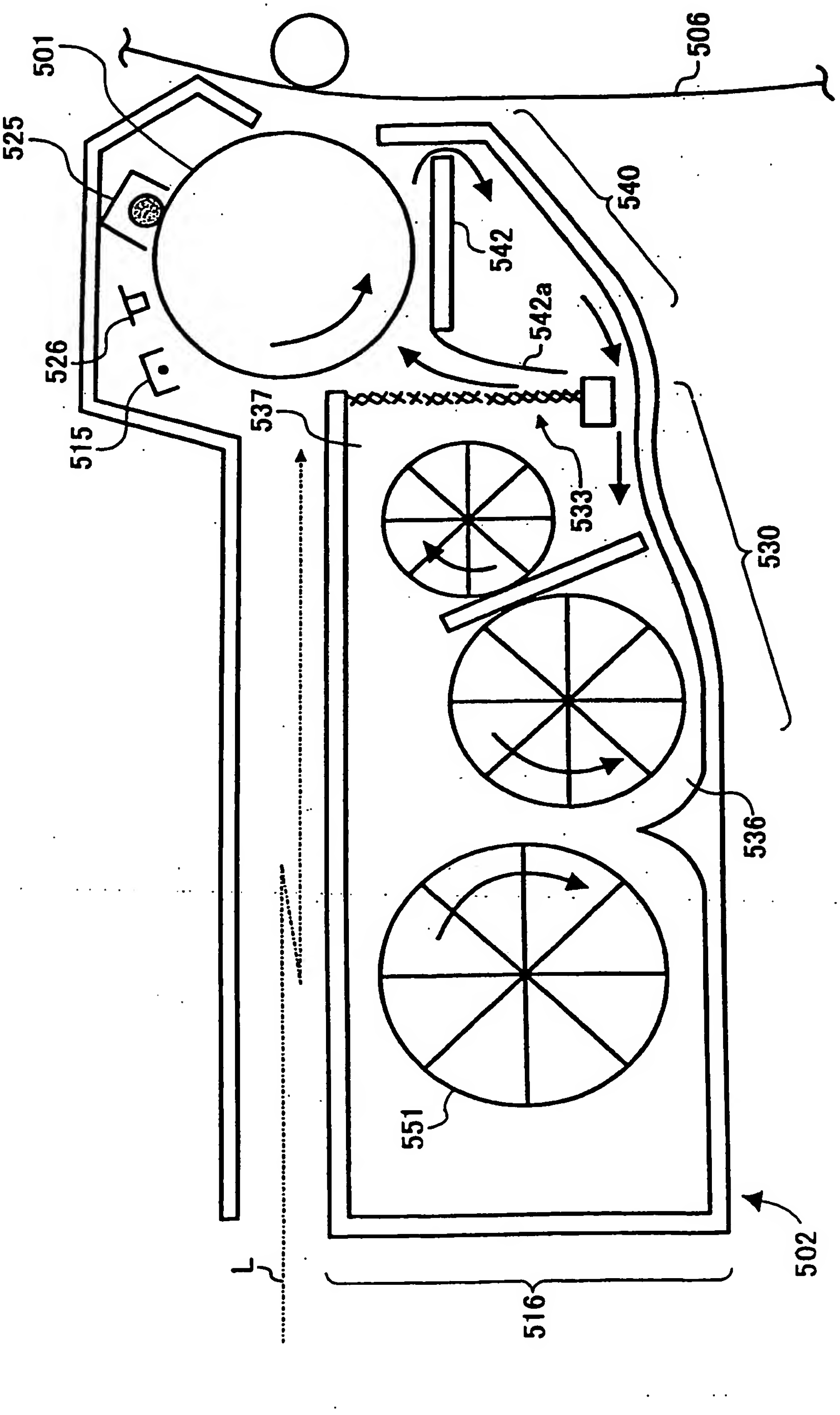
OBLON, SPIVAK, et al
Docket No: 250833US
Inventor: Yohichiro MIYAGUCHI, et al.
Serial No: 10/805,362
Response to Official Action dated: August 9, 2005
Replacement Sheet

FIG. 91



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